

CLAIMS

What is claimed is:

1 1. A method of processing a database query between one or more clients and one or
2 more databases, the method comprising the steps of:

3 receiving the database query from one of the clients, the database query formatted
4 using a first protocol;

5 selecting one of the databases to process the database query;

6 translating the database query from the first protocol to a second protocol;

7 sending the translated database query to the selected database for processing;

8 receiving a response to the database query from the selected database, the response
9 formatted using the second protocol;

10 translating the response from the second protocol to the first protocol;

11 determining which of the clients sent the database query; and

12 sending the translated response to the client that sent the database query.

1 2. The method as recited in claim 1, further comprising the step of validating the client.

1 3. The method as recited in claim 1, further comprising the step of sending a time out
2 response to the client that sent the database query whenever the translated response has not
3 been received within a specified time period.

1 4. The method as recited in claim 1, further comprising the step of logging the database
2 query.

1 5. The method as recited in claim 1, further comprising the step of storing an address
2 identifier for the client that sent the database query.

1 6. The method as recited in claim 1, further comprising the step of storing a query
2 identifier for the database query.

1 7. The method as recited in claim 1, wherein the steps of sending the translated database
2 query to the selected database for processing and receiving a response to the database query
3 from the selected database, the response formatted using the second protocol comprise the
4 steps of:

5 encrypting the translated database query;
6 sending the encrypted database query to the selected database for processing;
7 receiving an encrypted response to the encrypted database query from the selected
8 database, the response formatted using the second protocol; and
9 decrypting the encrypted response into a response.

1 8. The method as recited in claim 1, wherein the first protocol is an Internet protocol.

1 9. The method as recited in claim 1, wherein the second protocol is a signaling protocol.

1 10. The method as recited in claim 8, wherein the signaling protocol is a Signaling
2 System 7 protocol.

1 11. The method as recited in claim 1, wherein the database query is part of a call
2 validation process.

1 12. The method as recited in claim 1, wherein the database query is part of a call billing
2 process.

1 13. The method as recited in claim 1, wherein the database query is part of a bank card
2 validation process.

1 14. The method as recited in claim 1, wherein the database query is part of a bank card
2 settlement process.

1 15. The method as recited in claim 1, wherein the selected database is a line information
2 database.

1 16. A computer program embodied on a computer readable medium for processing a
2 database query between one or more clients and one or more databases, the computer
3 program comprising:

4 a code segment for receiving the database query from one of the clients, the database
5 query formatted using a first protocol;

6 a code segment for selecting one of the databases to process the database query;

7 a code segment for translating the database query from the first protocol to a second
8 protocol;

9 a code segment for sending the translated database query to the selected database for
10 processing;

11 a code segment for receiving a response to the database query from the selected
12 database, the response formatted using the second protocol;

13 a code segment for translating the response from the second protocol to the first
14 protocol;

15 a code segment for determining which of the clients sent the database query; and

16 a code segment for sending the translated response to the client that sent the database
17 query.

1 17. The computer program as recited in claim 16, further comprising a code segment for
2 validating the client.

1 18. The computer program as recited in claim 16, further comprising a code segment for
2 sending a time out response to the client that sent the database query whenever the translated
3 response has not been received within a specified time period.

1 19. The computer program as recited in claim 16, further comprising a code segment for
2 logging the database query.

1 20. The computer program as recited in claim 16, further comprising a code segment for
2 storing an address identifier for the client that sent the database query.

1 21. The computer program as recited in claim 16, further comprising a code segment for
2 storing a query identifier for the database query.

1 22. The computer program as recited in claim 16, wherein the a code segments for
2 sending the translated database query to the selected database for processing and receiving a
3 response to the database query from the selected database, the response formatted using the
4 second protocol comprise:

5 a code segment for encrypting the translated database query;

6 a code segment for sending the encrypted database query to the selected database for
7 processing;

8 a code segment for receiving an encrypted response to the encrypted database query
9 from the selected database, the response formatted using the second protocol; and

10 a code segment for decrypting the encrypted response into a response.

1 23. The computer program as recited in claim 16, wherein the first protocol is an Internet
2 protocol.

1 24. The computer program as recited in claim 16, wherein the second protocol is a
2 signaling protocol.

1 25. The computer program as recited in claim 24, wherein the signaling protocol is a
2 Signaling System 7 protocol.

1 26. The computer program as recited in claim 16, wherein the database query is part of a
2 call validation process.

1 27. The computer program as recited in claim 16, wherein the database query is part of a
2 call billing process.

1 28. The computer program as recited in claim 16, wherein the database query is part of a
2 bank card validation process.

1 29. The computer program as recited in claim 16, wherein the database query is part of a
2 bank card settlement process.

1 30. The computer program as recited in claim 16, wherein the selected database is a line
2 information database.

1 31. A system for processing a database query between one or more clients and one or
2 more databases, the system comprising:

3 a computer communicably coupled to the one or more clients;

4 one or more network servers communicably coupled to the computer and the one or
5 more databases;

6 a server/router module resident on the computer, the server/router module receiving
7 the database query from one of the clients, the database query formatted using a first
8 protocol, selecting one of the network servers and one of the databases to process the
9 database query, sending the database query to the selected network server, determining which
10 of the clients sent the database query, and sending a translated response to the client that sent
11 the database query; and

12 a network interface module resident on each of the network servers, the network
13 interface module translating the database query from the first protocol to a second protocol,
14 sending the translated database query to the selected database for processing, receiving a
15 response to the database query from the selected database, the response formatted using the
16 second protocol, translating the response from the second protocol to the first protocol, and
17 sending the translated response to the computer.

1 32. The system as recited in claim 31, wherein the server/router module validates the
2 client.

1 33. The system as recited in claim 31, wherein the server/router module sends a time out
2 response to the client that sent the database query whenever the translated response has not
3 been received within a specified time period.

1 34. The system as recited in claim 31, wherein the network interface module logs the
2 database query.

1 35. The system as recited in claim 31, wherein the server/router module stores an address
2 identifier for the client that sent the database query.

1 36. The system as recited in claim 31, wherein the server/router module stores a query
2 identifier for the database query.

1 37. The system as recited in claim 31, wherein the network interface module sends the
2 translated database query to the selected database for processing and receives the response to
3 the database query from the selected database, the response formatted using the second
4 protocol by encrypting the translated database query, sending the encrypted database query to
5 the selected database for processing, receiving an encrypted response to the encrypted
6 database query from the selected database, the response formatted using the second protocol,
7 and decrypting the encrypted response into the response.

1 38. The system as recited in claim 31, wherein the computer and the server/router module
2 comprise:

3 a first computer communicably coupled to the one or more clients;

4 a second computer communicably to the one or more network servers;

5 a server module resident on the first computer, the server module receiving the
6 database query from one of the clients, the database query formatted using a first protocol,
7 sending the database query to the second computer, and sending a translated response to the
8 client that sent the database query; and

9 a router module resident on the second computer, the router module selecting one of
10 the network servers and one of the databases to process the database query, sending the
11 database query to the selected network server, determining which of the clients sent the
12 database query, and sending the translated response to the first computer.

1 39. The system as recited in claim 31, wherein the first protocol is an Internet protocol.

1 40. The system as recited in claim 31, wherein the second protocol is a signaling
2 protocol.

1 41. The system as recited in claim 40, wherein the signaling protocol is a Signaling
2 System 7 protocol.

1 42. The system as recited in claim 31, wherein at least one of the network servers is a
2 service control point.

1 43. The system as recited in claim 31, wherein at least one of the network servers is a
2 legacy server.

1 44. The system as recited in claim 31, wherein at least one of the network servers is a
2 bank server.

1 45. The system as recited in claim 31, wherein the database query is part of a call
2 validation process.

1 46. The system as recited in claim 31, wherein the database query is part of a call billing
2 process.

1 47. The system as recited in claim 31, wherein the database query is part of a bank card
2 validation process.

1 48. The system as recited in claim 31, wherein the database query is part of a bank card
2 settlement process.

- 1 49. The system as recited in claim 31, wherein the selected database is a line information
2 database.